Lessons Learned from the RCC Project: What Might a 'Real' All-FPGA Cluster Look Like?

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The Reconfigurable Computing Cluster (RCC) Project was organized to proceed in two phases. The first phase involved the construction of an expensive, small-scale cluster that heavily leveraged commercially-available components. This resulted in Spirit a 64-node FPGA cluster of Xilinx ML-410 Developer boards plus a custom-designed communication card. The idea was to take direct measurements using real applications. Data from this platform would then be used to build a "real" All-FPGA cluster in the second phase. This talk will recap some of applications implemented in phase one, share the most important insights, and discuss the implications for phase two.